A.O. SMITH

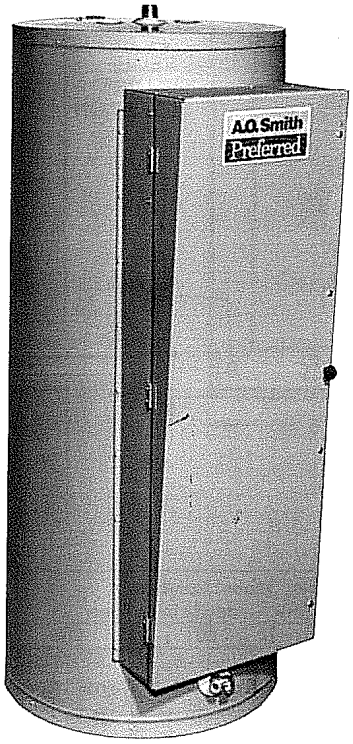
CONSERVATIONIST®

Dura-Power

COMMERCIAL ELECTRIC
WATER HEATERS
DVE-52, 80, 120

Designed for use as a recovery heater having its own storage tank or booster for supplying sanitizing rinse water for dishwashing.

Meets or exceeds the requirements of ASHRAE 90.1b-1992 Standard for energy efficiencies.



FEATURES

GLASS-LINED TANK - Three sizes; 52, 80 and 119 gallon (189, 300, 450 Liter) capacity. Tank interior is coated with glass specially developed by A.O. Smith Ceramic Research for water heater use. Tanks rated at 150 psi (1034 kPa) working pressure; tested at 300 psi (2068 kPa). Foam insulation reduces costly heat loss. ASME (optional) maximum working pressure is 160 psi (1100 kPa).

ELEMENTS - Heavy duty elements have Incoloy sheaths and ceramic terminal block for rugged commercial service. Medium watt density means lower surface temperature to minimize scale buildup and more surface to heat water. Element sizes from 2 to 6 KW. Use 3, 6 or 9 elements; maximum input 54 KW. The design assures proper placement of elements in the tank to avoid bridging the sheaths with lime or scale deposits.

STANDARD VOLTAGES - 208, 220/240 and 440/480V single-phase and three-phase delta; 277V single-phase; 380/416 and 575/600 volt three-phase (Y connected elements).

TERMINAL BLOCK - Factory installed. Just bring the service to the heater and connect to block.

MAGNETIC CONTACTORS - Heavy duty; CSA rated 100,000 cycles.

CONTROLS - 120V control circuit is powered by fused transformer, eliminating need for 120V service connection. Immersion temperature control adjustable through a range of 60°F to 180°F (15°C to 82°C). Immersion manual reset high temperature cutoff.

• Simplified circuitry, color coded for ease of service • Hinged control compartment door for quick, easy access • Two anode rods for maximum corrosion protection • Cabinet has bonderized undercoat with baked enamel finish • Top outlet, side inlet and relief valve openings • Nipple and brass drain valve • C.G.A./ ASME temperature and pressure relief valve.

OPTIONAL

POWER CIRCUIT FUSING - Protects elements and contactors from short circuits, overloading or line surges. Meets Canadian Electric Code requirements.

MANIFOLD KITS WITH STOP VALVES - Available for multiple installations.

THERMOSTATIC SEQUENCING CONTROL - Energizes three elements at a time to prevent line surges when thermostat calls for heat. Available on units 24 KW and larger.

See page C 029.0 for service wiring and fuse selection.

ASME
(OPTIONAL)

Lime Tamer™

c UL us

NSF®

GOLDENROD
24K GOLD ELEMENTS

LIMITED WARRANTY OUTLINE

If the tank should leak any time during the first three years, under the terms of the warranty, A.O. Smith will furnish a replacement heater; installation, labor, handling and local delivery extra. **THIS OUTLINE IS NOT A WARRANTY.**

For complete information, consult the written warranty or A. O. Smith Water Products Company.

GOLDENROD ELEMENTS - All DVE models are available with the Goldenrod 24K gold plated elements (patent pending). Goldenrod elements provide long life and 6 times the scaling resistance of standard incoloy elements. Goldenrod elements carry a three-year warranty against failure due to scale.

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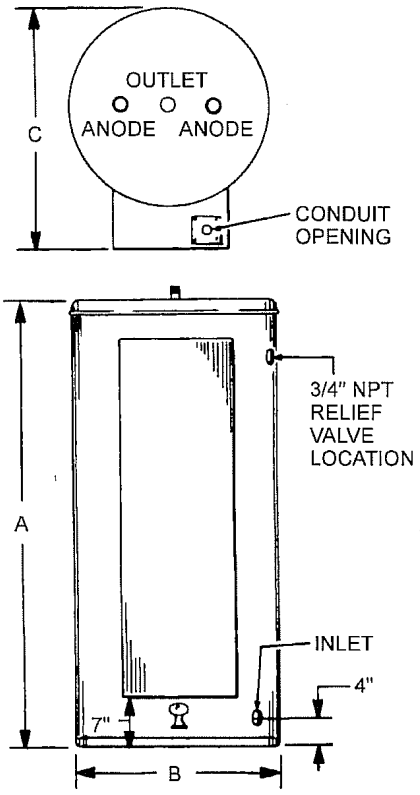

RECOVERY CAPACITY IN GALLONS AT TEMPERATURE RISE OF

Standard kW Input	BTU/ Hour	30°F 17°C	40°F 22°C	50°F 28°C	60°F 33°C	70°F 39°C	80°F 45°C	90°F 50°C	100°F 56°C	110°F 61°C	120°F 67°C	130°F 72°C	140°F 78°C
6	20,478	82	62	49	41	35	31	27	25	22	21	19	18
		310	233	166	155	133	116	103	93	85	78	72	66
9	30,717	123	92	74	62	53	46	41	37	34	31	28	26
		465	349	279	233	199	174	155	140	127	116	107	100
12	40,956	164	123	98	82	70	61	55	49	45	41	38	35
		620	465	372	310	266	233	207	186	169	155	143	133
13.5	46,075	184	138	111	92	79	69	62	55	50	46	43	40
		698	523	419	349	299	262	233	209	190	174	161	150
15	51,195	205	154	123	102	88	77	68	61	56	51	47	44
		775	582	465	388	332	291	258	233	211	194	149	166
18	61,434	246	184	148	123	105	92	82	74	67	62	57	53
		930	698	558	465	399	349	310	279	254	233	215	199
24	81,912	328	246	197	164	140	123	109	98	90	82	76	70
		1241	930	744	620	532	465	414	372	338	310	286	266
27	92,151	369	276	221	185	158	138	123	111	101	92	85	79
		1396	1047	938	609	509	523	465	410	391	340	322	299
30	102,390	410	307	246	205	176	154	137	123	112	102	95	88
		1551	1163	930	775	665	582	517	465	423	388	358	332
36	122,868	492	369	295	246	211	184	164	148	134	123	113	105
		1861	1396	1117	930	798	698	620	556	508	465	429	399
40.5	138,226	554	418	332	277	237	208	185	166	151	138	128	119
		2094	1570	1256	1047	897	785	698	628	634	582	537	498
45	153,585	615	461	369	307	263	230	205	184	168	154	142	132
		2326	1745	1398	1163	997	872	755	698	634	582	537	498
54	184,302	738	554	443	359	316	277	246	221	201	185	170	158
		2791	2094	1675	1396	1196	1047	930	837	761	696	644	598

Figured at 1 KW (3413 BTU) = 4.1 Gallons at 100°F temperature rise.
NSF ratings may be obtained by multiplying the above figures by 0.98.

Model Number	Tank Capacity gal.	Tank Capacity L	DIMENSIONS A in.	A cm	B in.	B cm	C in.	C cm	Inlet/ Outlet (NPT) in.	Inlet/ Outlet (NPT) cm	Approx. Ship. Wt. lbs.	Approx. Ship. Wt. kgs.
DVE-52	50	189	55 1/4	140.3	21 3/4	55.2	27 1/4	69.2	1 1/4	3.2	265	120
DVE-80	80	300	59 1/2	151.1	25 1/4	64.1	31 1/4	79.4	1 1/4	3.2	280	127
DVE-120	119	450	62 1/4	158.1	29 1/2	75.0	35 3/4	90.8	1 1/4	3.2	390	177

KW Input	Model Numbers Tank Capacity in Gallons 50	80	119	Number Of Elements	Element Wattage	Full Load Current In Amperes Single Phase 208V	240V	277V	480V	Three Phase 208V	240V	480V	600V
6	DVE-52-6	DVE-80-6	DVE-120-6	3	2,000	28.8	25.0	21.7	12.5	16.7	14.4	7.2	6.0
9	DVE-52-9	DVE-80-9	DVE-120-9	3	3,000	43.3	37.5	32.5	18.8	25.0	21.7	10.8	9.0
12	DVE-52-12	DVE-80-12	DVE-120-12	3	4,000	57.7	50.0	43.3	25.0	33.3	28.9	14.4	12.0
13.5	DVE-52-13.5	DVE-80-13.5	DVE-120-13.5	3	4,500	64.9	56.3	48.7	28.1	37.5	32.5	16.2	13.5
15	DVE-52-15	DVE-80-15	DVE-120-15	3	5,000	72.1	62.5	54.2	31.3	41.6	36.1	18.0	15.0
18	DVE-52-18	DVE-80-18	DVE-120-18	3*	6,000	86.5	75.0	65.0	37.5	50.0	43.3	21.7	18.0
24	DVE-52-24	DVE-80-24	DVE-120-24	6	4,000	115.4	100.0	86.6	50.0	66.6	57.7	28.9	24.0
27	DVE-52-27	DVE-80-27	DVE-120-27	6	4,500	129.8	112.5	97.5	56.3	74.9	65.0	32.5	27.0
30	DVE-52-30	DVE-80-30	DVE-120-30	6	5,000	144.2	125.0	108.3	62.5	83.3	72.2	36.1	30.0
36	DVE-52-36	DVE-80-36	DVE-120-36	6*	6,000	173.1	150.0	130.0	75.0	99.9	86.6	43.3	36.0
40.5	DVE-52-40.5	DVE-80-40.5	DVE-120-40.5	9	4,500	194.7	168.8	146.2	84.4	112.4	97.4	48.7	40.5
45	DVE-52-45	DVE-80-45	DVE-120-45	9	5,000	216.3	187.5	162.5	93.8	124.9	108.3	54.1	45.0
54	DVE-52-54	DVE-80-54	DVE-120-54	9	6,000	N/A	225.0	194.9	112.5	149.9	129.9	65.0	54.0

*208 volt models may contain three (3) additional elements.

SUGGESTED SPECIFICATIONS

The heater(s) shall be Dura-Power Commercial Electric Model Number_____as manufactured by A.O. Smith Enterprises Limited or equivalent. Heater(s) shall be rated at _____KW _____V _____phase, 60 cycle AC listed by Canadian Standards Association. Tank(s) shall be _____ gallon (Liter) capacity with 150 psi (1034 kPa) working pressure and equipped with dual extruded high density anodes. All internal surfaces of the heater(s) exposed to water shall be glass-lined with an alkaline borosilicate composition that has been fused to steel by firing at a temperature range of 1400°F to 1600°F (760° to 870°C). Electric heating elements shall be medium watt density screw-in type with Incoloy sheath and ceramic terminal block. Internal power circuit fusing shall be provided (optional). Element operation shall be_____(1. simultaneous; or 2. sequenced with thermostats) switched through individual magnetic contactors. Control circuit shall be factory fused (optional) and include manual reset high temperature cutoff switch and thermostat with sensing element in tin-plated well, immersed in water. Control cabinet and jacket shall be of baked enamel finish and shall provide full size control and element compartment for complete service and maintenance performance through front hinged compartment door, and enclose tank with foam insulation. 1 1/4" (npt) inlet and outlet connection shall be provided. The heater tank shall have a three year limited warranty and controls and accessories shall have a one year limited warranty as outlined in the written warranty. Fully illustrated instruction manual to be included. For multiple installation, factory built manifold kits for_____heater installation (maximum of 4 heaters) shall be provided. Meets ASHRAE 90.1b-1992.

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